

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/003595

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G05B19/418

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01R G05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 470 227 B1 (BALAKRISHNAN RAMESH ET AL) 22 October 2002 (2002-10-22) abstract figures 1,3,5-7 column 2, line 30 - line 41 column 4, line 53 - column 5, line 5 column 7, line 5 - line 24 column 8, line 1 - line 34 column 9, line 58 - column 10, line 57 column 12, line 63 - line 67	17-20, 38-41, 43, 45
Y	----- -/--	1-16, 21-37, 42, 44



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

25 June 2004

Date of mailing of the international search report

01/07/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/003595

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DAN NOONEN, STUART SIEGEL, PAT MALONEY: "DeviceNet Application Protocol" 1ST INTERNATIONAL CAN CONFERENCE, 'Online! 1994, XP002284232 Retrieved from the Internet: URL:http://212.114.78.132/icc/proceedings. html> 'retrieved on 2004-06-11! the whole document	1-16, 21-37, 42,44
A	EP 1 150 187 A (APPLIED MATERIALS INC) 31 October 2001 (2001-10-31) figures 6-12 paragraph '0022! - paragraph '0023! paragraph '0039! paragraph '0072! - paragraph '0075! paragraph '0079!	1,17,21, 38,42-45
A	WO 02/066923 A (ADVANCED MICRO DEVICES INC) 29 August 2002 (2002-08-29) figures 1,2,6 page 1, line 4 - line 5 page 2, line 24 - line 29 page 7, line 6 - page 8, line 4	1,17,21, 38,42-45

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/003595

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6470227	B1	22-10-2002	US 2003176940 A1	18-09-2003
EP 1150187	A	31-10-2001	EP 1150187 A2	31-10-2001
			JP 2002015969 A	18-01-2002
			TW 473802 B	21-01-2002
WO 02066923	A	29-08-2002	EP 1415126 A2	06-05-2004
			WO 02066923 A2	29-08-2002

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

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29 JUN 2004

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/003595

International filing date (day/month/year)
05.02.2004

Priority date (day/month/year)
01.03.2003

International Patent Classification (IPC) or both national classification and IPC
G05B19/418

Applicant
APPLIED MATERIALS, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/003595

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/003595

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16, 21-37, 42, 44
	No: Claims	17-20, 38-41, 43, 45
Inventive step (IS)	Yes: Claims	
	No: Claims	1-45
Industrial applicability (IA)	Yes: Claims	1-45
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US04/03595

The examination is being carried out on the **following application documents**:

Description, pages:

1-24

as originally filed

Claims, No.:

1-45

as originally filed

Drawings, sheets:

1/6-6/6

as originally filed

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

- 1) Reference is made to the following documents:

D1: US-B-6 470 227

D2: XP002284232

- 2) The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 17, 38, 43 and 45 is not new in the sense of Article 33(2) PCT.

- 2.1) The document **D1** discloses (the references in parentheses applying to this document):

- A method of storing information in a database to characterize attributes outputted by different classes of equipment (column 7 lines 5-16 & column 10 lines 13-19) comprising the steps of:
 - providing a database memory device (column 7 lines 15-16)
 - storing in the database memory device a plurality of attribute data records (column 9 lines 58-65)
- the step of storing each attribute data record includes:
 - storing in that record a first field identifying a class of equipment (column 9 lines 58-65)
 - storing in that record a second field identifying an attribute whose value is outputted

by the class of equipment identified by the first field of that record (column 9 lines 58-65 and column 10 lines 13-19)

- storing in that record a third field specifying a conversion parameter that defines a conversion of the value of the attribute identified in the second field into physical units of measurements

(implicitly disclosed, as the method of **D1** is used in a semiconductor fabrication process in which monitoring is an essential part. Therefore a conversion parameter has to be included in the configuration database of **D1** to interpret the attributes.)

Therefore the subject-matter of **claim 17** is considered not new.

- 2.2) The subject-matter of the independent claim 38 corresponds in terms of an apparatus to that of claim 17 differing in that a diagnostic apparatus for monitoring electronic equipment, a computer-readable data storage device and a computer connected to read data from the storage device are included.

As the apparatus of **D1** controls and monitors equipment in a semiconductor fabrication process (see Figure 1 and column 8 lines 30-47) the apparatus of **D1** functions also as a diagnostic apparatus for monitoring electronic equipment. The further additional features, concerning the data storage device and the computer, are also included in **D1**: (see column 5 lines 6-12).

Therefore the subject-matter of **claim 38** is also considered not new.

- 2.3) The subject-matter of the independent claims 43 and 45 corresponds in terms of a data storage medium to that of claims 38 and 17 respectively. The same reasoning applies, mutatis mutandis, to the independent **claims 43** and **45** which therefore are also considered not new.
- 3) The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 21, 42 and 44 does not involve an inventive step in the sense of Article 33(3) PCT.
- 3.1) The subject-matter of the independent **claim 1** differs from that of claim 17 insofar as the

third field specifies an ID, assigning the class of equipment identified by the first field to the attribute value of the second field, instead of specifying a conversion parameter.

As explained under 2.1 **D1** is regarded as being the closest prior art to the subject-matter of claim 1 from which it differs in that:

the step of storing a third field - specifying an ID which the class of equipment identified by the first field of the record assigns to the attribute value identified by the second field of the record - is added

The problem to be solved by the present invention may therefore be regarded as to provide a method of assigning the information stored in a first field to that stored in a second field.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

The feature of assigning an ID to an attribute is well known in the field of industrial fabrication (see e.g. paragraph "Attribute Identifier" in the chapter "DeviceNet Addressing" of document **D2** on page 2) and is therefore merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

- 3.2) The subject-matter of the independent claim 21 corresponds in terms of an apparatus to that of claim 1 differing in that a diagnostic apparatus for monitoring electronic equipment, a computer-readable data storage device and a computer connected to read data from the storage device are included.

As explained under 2.2 all these additional features are disclosed in **D1** and therefore the subject-matter of **claim 21** is also considered not inventive.

- 3.3) The subject-matter of the independent claims 42 and 44 corresponds in terms of a data storage medium to that of claims 21 and 1 respectively. The same reasoning applies, mutatis mutandis, to the independent **claims 42 and 44** which therefore are also

considered not inventive.

- 4) Dependent claims 2-16, 18-20, 22-37 and 39-41 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:
- 4.1) The additional feature, concerning the ID uniquely specifying the attribute, as claimed in **claim 2** is known from **D2**: (see e.g. paragraph "Attribute Identifier" in the chapter "DeviceNet Addressing" on page 2), Article 33(3).
- 4.2) The additional feature, concerning the ID uniquely specifying a command, as claimed in **claims 3 and 4** is known from **D1**: (see e.g. column 10 lines 13-19), Article 33(3).
- 4.3) The additional feature, concerning a field identifying the position of a chamber, as claimed in **claim 5** is known from **D1**: (see e.g. Figure 1 and column 8 lines 38-43), Article 33(3).
- 4.4) The additional feature, concerning the first field identifying a model or a version of the model of equipment, as claimed in **claims 6 and 7** is known from **D2**: (see e.g. column 9 lines 58-65), Article 33(3).
- 4.5) The additional feature, concerning the first field being subdivided into two subordinate fields identifying model, version, range of versions, revision date or range of revision dates of the equipment, as claimed in **claims 8-12** can not be considered as involving an inventive step for the following reason:
A skilled person confronted with that problem of different versions or revision dates of equipment models will adapt the database for different equipment of **D1**. Using subordinate fields is merely a straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed, Article 33(3).
- 4.6) The additional feature, concerning different classes of equipment - represented by different models or versions of models - being stored in different records of the

database, as claimed in **claims 13 and 14** is a general functionality of a database and therefore implicitly disclosed in the database of **D1**, Article 33(3).

- 4.7) The additional feature, concerning the attribute being of a process performed in a semiconductor fabrication process chamber, as claimed in **claims 15 and 16** is known from **D1**: (see e.g. column 8 lines 30-33) , Article 33(3).
- 4.8) The additional feature, concerning the conversion parameter specifying a physical unit, a scale factor or a range of physical values, as claimed in **claims 18-20** is implicitly disclosed in **D1** as explained under 2.1 , Article 33(2).
- 4.9) The additional feature, concerning the communication interface, as claimed in **claim 22** is known from **D1**: (see e.g. 31, 33 in Figure 1), Article 33(3).
- 4.10) The additional features of claims 23-37 and 39-41 correspond in terms of an apparatus to that of claims 2-16 and 18-20 respectively. Therefore the same reasoning applies, mutatis mutandis, to the dependent **claims 23-37 and 39-41**.